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10/679,980	10/07/2003	Reddy Urimindi	29338.00	4748

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EXAMINER	
LEE, DAVID J	
ART UNIT	**PAPER NUMBER**
2613	

DATE MAILED: 05/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/679,980	URIMINDI ET AL.	
	Examiner	Art Unit	
	David Lee	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-43* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-43* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *07 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *10/7/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-4 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 1 recites in part, "at least one routing switch for performing said corrective action." This is not disclosed or described in the specification in such a way to enable a skilled artisan to make and use the invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-4 and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites in part, "at least one routing switch for performing said corrective action." Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the

applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The term "routing switch" in claim 1 functions for "performing said corrective action", while the accepted function is for "changing the course/flow of a signal." The term is indefinite because the specification does not clearly redefine the term.

Claim 21 recites the limitation "said amplification level". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 1, 3, 4, 13, 14, 16, 18-20, 22-35, and 37-43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Downie et al. (US Pub. No. 2004/0197097) in view of French et al. (US Pub. No. 2005/0185955 A1) and Belhadj-Yahya et al. (US Pub. No. 2003/0223756 A1).

Regarding claims 1, 16, 18, 19, 29, 31, 34, as it is best understood in view of the 112 rejection above, Downie teaches an apparatus for testing and monitoring an optical network (fig. 1 shows the optical network and fig. 2 shows the testing and monitoring apparatus used on the network) said apparatus comprising: a plurality of couplers (taps of P_1, P_3 of fig. 1; note that couplers tap a portion of the signals P_1, P_3, etc. which correspond to the input signals of monitoring system of fig. 2), each said coupler tapping into an optical fiber (paragraph 0023),

each of said couplers representing a channel (channels 18 on fibers 12A – 12M of fig. 1); at least one coupler switch in communication with said plurality of couplers (40A-40K of fig. 2; see also paragraph 0025: outputs are coupled at selectors/couplers 40A-40K); a test switch in communication with said at least one coupler switch (32 of fig. 2); a plurality of test equipment in communication with said test switch (42A-42K of fig. 2); a processor in communication with said plurality of test equipment (44 of fig. 2), said processor controlling said at least one coupler switch causing said at least one coupler switch to select one of said channels (40A-40K of fig. 2), said processor controlling said test switch causing said test switch to select one of said plurality of test equipment (by selecting a connection between inputs 34 and outputs 36A-36K, a certain test equipment 42A-42K is selected), said processor programmed to execute a process including selecting said channel to test (via 40A-40K), selecting one of said plurality of test equipment (via 32) and initiating a test (via 42A-42K). Downie is mainly concerned with the method and apparatus for an optical monitoring system and since the steps of saving the test results and initiating corrective action are quite well known in the art, Downie remains silent in these matters. French, from a similar field of endeavor, teaches an apparatus for an optical monitoring system (see Abstract) comprising test equipment for measuring the BER of an optical device under test. French also discloses that test results, whether positive or negative, are stored by a controller (310 and 312 of fig. 3). It would have been obvious to a skilled artisan at the time of invention to store test results as disclosed by French in order to track system performance and for recalling and reviewing purposes. In addition, although Downie does not expressly disclose the step of initiating a corrective action, it is well known to initiate a corrective command in response to an error or a poor quality signal. For example, Belhadj-Yahya discloses an optical

monitoring system (see Abstract) which generates an alarm indicative of BER excursions beyond a protocol BER threshold level (e.g., see paragraphs 0020, 0032). Also, in view of the 112 rejection above, it is noted that Belhadj-Yahya teaches a routing switch for performing said corrective action (414 of fig. 4; note that neither the "routing switch" nor its associated function of "performing said corrective action" is mentioned in the disclosure of the instant invention and that the accepted function of a "routing switch" differs from the claimed function. It is therefore interpreted by the examiner that the microcontroller is the "routing switch" in that it performs the claimed function of "performing said corrective action" at step 414 of fig. 4; see also paragraph 0020 – the microcontroller generates an alarm to a user or service provider to request repair, i.e., "corrective action"), or in an alternative interpretation, Downie discloses a routing switch "for performing said corrective action" (32 of fig. 2). It would have been obvious to a skilled artisan at the time of invention to implement an alarm such as the one taught by Belhadj-Yahya in the system of Downie in order to resolve errors and/or adjust system specifications so as to improve signal quality.

Regarding claim 3, the combined invention of Downie, French, and Belhadj-Yahya teaches that the corrective action is sending a second alarm to a remote service (see Abstract and paragraph 0020, 0032 of Belhadj-Yahya).

Regarding claim 4, in view of the 112 problem above, the combined invention of Downie, French, and Belhadj-Yahya teaches said at least one routing switch has a response time of less than or equal to 10 milliseconds (see paragraph 0024 of Downie).

Regarding claim 13, the combined invention of Downie and French teaches the limitations of claim 5, but does not expressly disclose that the processor includes determining

and initiating a corrective action. However, it is well known to initiate a corrective command in response to an error or a poor quality signal. For example, Belhadj-Yahya discloses an optical monitoring system (see Abstract) which generates an alarm indicative of BER excursions beyond a protocol BER threshold level (e.g., see paragraphs 0020, 0032). It would have been obvious to a skilled artisan at the time of invention to implement an alarm such as the one taught by Belhadj-Yahya in the system of Downie in order to resolve errors and/or adjust system specifications so as to improve signal quality.

Regarding claim 14, the combined invention of Downie, French, and Belhadj-Yahya teaches that the corrective action is sending a second alarm to a remote service (see Abstract and paragraph 0020, 0032 of Belhadj-Yahya).

Regarding claim 20, the combined invention of Downie, French, and Belhadj-Yahya teaches a step of setting an amplification level for said channel, said amplification level applied to said channel before said step of initiating said test (38A of fig. 2 of Downie).

Regarding claim 22, the combined invention of Downie, French, and Belhadj-Yahya teaches the step of determining said channel to test includes sequentially selecting each of said channels (paragraph 0025 of Downie).

Regarding claim 23, the combined invention of Downie, French, and Belhadj-Yahya teaches the limitations of claim 19 but does not disclose the step of flagging a channel for more frequent testing. However, it is well known in the art to flag channels for more frequent testing when the channels have persistent problems or are of low quality. It would have been obvious to a skilled artisan at the time of invention to flag channels for more frequent testing in order to provide a thoroughly equipped monitoring system.

Regarding claim 24, the combined invention of Downie, French, and Belhadj-Yahya teaches the step of selecting a test to perform on said channel (42A of fig. 2 of Downie).

Regarding claim 25, the combined invention of Downie, French, and Belhadj-Yahya teaches the step of determining said channel to test includes sequentially selecting each of said channels (paragraph 0025 of Downie).

Regarding claim 26, the combined invention of Downie, French, and Belhadj-Yahya teaches the limitations of claim 14 but does not disclose the step of flagging a channel for more frequent testing. However, it is well known in the art to flag channels for more frequent testing when the channels have persistent problems or are of low quality. It would have been obvious to a skilled artisan at the time of invention to flag channels for more frequent testing in order to provide a thoroughly equipped monitoring system.

Regarding claim 27, the combined invention of Downie, French, and Belhadj-Yahya teaches that the test includes testing performed by at least one test equipment selected from a group including binary error rate measurement (42A of fig. 2 of Downie).

Regarding claim 28, the combined invention of Downie, French, and Belhadj-Yahya teaches that the corrective action is sending a second alarm to a remote service (see Abstract and paragraph 0020, 0032 of Belhadj-Yahya).

Regarding claim 30, the combined invention of Downie, French, and Belhadj-Yahya teaches the step of selecting a test to perform on said channel (42A of fig. 2 of Downie).

Regarding claim 32, the combined invention of Downie and French teaches that the output component communicates with a routing device for grooming and rerouting the optical network (see e.g., 20 of fig. 1).

Regarding claim 33, the combined invention of Downie, French, and Belhadj-Yahya teaches that the corrective action is sending a second alarm to a remote service (see Abstract and paragraph 0020, 0032 of Belhadj-Yahya).

Regarding claim 35, the combined invention of Downie, French, and Belhadj-Yahya teaches a step of setting an amplification level for said channel, said amplification level applied to said channel before said step of initiating said test (38A of fig. 2 of Downie).

Regarding claim 37, the combined invention of Downie, French, and Belhadj-Yahya teaches the step of determining said channel to test includes sequentially selecting each of said channels (paragraph 0025 of Downie).

Regarding claim 38, the combined invention of Downie, French, and Belhadj-Yahya teaches the limitations of claim 34 but does not disclose the step of flagging a channel for more frequent testing. However, it is well known in the art to flag channels for more frequent testing when the channels have persistent problems or are of low quality. It would have been obvious to a skilled artisan at the time of invention to flag channels for more frequent testing in order to provide a thoroughly equipped monitoring system.

Regarding claim 39, the combined invention of Downie, French, and Belhadj-Yahya teaches the step of selecting a test to perform on said channel (42A of fig. 2 of Downie).

Regarding claim 40, the combined invention of Downie, French, and Belhadj-Yahya teaches the step of selecting a test to perform on said channel (42A of fig. 2 of Downie).

Regarding claim 41, the combined invention of Downie, French, and Belhadj-Yahya teaches the limitations of claim 39 but does not disclose the step of flagging a channel for more frequent testing. However, it is well known in the art to flag channels for more frequent testing

when the channels have persistent problems or are of low quality. It would have been obvious to a skilled artisan at the time of invention to flag channels for more frequent testing in order to provide a thoroughly equipped monitoring system.

Regarding claim 42, the combined invention of Downie, French, and Belhadj-Yahya teaches that the test includes testing performed by at least one test equipment selected from a group including binary error rate measurement (42A of fig. 2 of Downie).

Regarding claim 43, the combined invention of Downie, French, and Belhadj-Yahya teaches that the corrective action is sending a second alarm to a remote service (see Abstract and paragraph 0020, 0032 of Belhadj-Yahya).

Claims 2, 17, 21, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Downie in view of French and Belhadj-Yahya and in further view of Huber (US Pub. No. 2002/0063929 A1).

Regarding claims 2 and 17, the combined invention of Downie, French, and Belhadj-Yahya teaches a device between said at least one coupler switch and said test switch, said device modifying an intensity of an optical signal transmitted to said plurality of test equipment (38A of fig. 2 of Downie). The combined invention does not disclose that the device can selectively modify the intensity. However, selective amplification is well known and widely used in the art. For example, Huber teaches an optical communication system (fig. 5) comprising a selective amplifier with energy supplied by a pump (see e.g., paragraph 0059). It would have been obvious to a skilled artisan at the time of invention to incorporate the selectivity function as

taught by Huber in the amplifier of Downie in order to allow for a more flexible and dynamic amplification scheme.

Regarding claims 21 and 36, the combined invention of Downie, French, and Belhadj-Yahya teaches the limitations of claims 19, 20, 34, and 35 but does not expressly disclose the step of attenuating the signal. However, it is well known that an amplifier can both amplify and attenuate signals. For example, Huber teaches an amplifier controlled by an optical pump source which serves to both amplify and attenuate an optical signal (paragraph 0032). It would have been obvious to a skilled artisan at the time of invention to include an attenuation function as taught by Huber in the amplifier of Downie in order to decrease intensity so as to prevent saturation at receiving terminals.

Claims 5, 6, 11, 12, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Downie in view of French.

Regarding claim 5, Downie teaches an apparatus for testing and monitoring an optical network (fig. 1 shows the optical network and fig. 2 shows the testing and monitoring apparatus used on the network), said apparatus comprising: a plurality of couplers (taps of P_1, P_3 of fig. 1; note that couplers tap a portion of the signals P_1, P_3, etc. which correspond to the input signals of monitoring system of fig. 2), each said coupler tapping into an optical fiber (paragraph 0023), each said coupler representing a channel (channels 18 on fibers 12A – 12M of fig. 1); at least one coupler switch in communication with said plurality of couplers (40A of fig. 2), said at least one coupler switch having one output selected from a plurality of inputs (see paragraph 0025); at

least one test device in communication with said at least one coupler switch (42A of fig. 2); a processor in communication with said at least one test device (44 of fig. 2), said processor controlling said at least one coupler switch causing said at least one coupler switch to select one of said channels (via link to 40A), said processor programmed to execute a process including selecting said channel to test and initiating a test (via 42A). Downie does not expressly disclose that the test results are saved, but this is common practice in the art. French, from a similar field of endeavor, teaches an apparatus for an optical monitoring system (see Abstract) comprising test equipment for measuring the BER of an optical device under test. French discloses that test results, whether positive or negative, are stored by a controller (310 and 312 of fig. 3). It would have been obvious to a skilled artisan at the time of invention to store test results as disclosed by French in order to track system performance and for recalling and reviewing purposes.

Regarding claim 6, the combined invention of Downie and French teaches at least one routing switch in said optical network, said at least one routing switch in communication with said processor, and said at least one routing switch for routing a first optical channel to a second optical channel (see e.g., 20 of fig. 1).

Regarding claim 11, the combined invention of Downie and French does not expressly teach a test switch between said at least one coupler switch and said at least one test device wherein said at least one test device includes a plurality of test equipment, said test switch selecting one of said plurality of test equipment. However, Downie does disclose that either or Q-factor test or a BER measurement test can be performed (e.g., 42A of fig. 2; see also paragraphs 0025-0026: "each of the measurement devices measures *at least one* of the Q-factor and bit error rate"). It is well known in the art to incorporate switches to switch between

different testing protocols. It would have been obvious to a skilled artisan at the time of invention to incorporate a test switch in order to provide efficient testing mechanisms of the optical channels.

Regarding claim 12, the combined invention of Downie and French teaches that the test includes testing performed by at least one test equipment selected from a group including binary error rate measurement (42A of fig. 2 of Downie).

Regarding claim 15, the combined invention of Downie and French teaches that at least one coupler switch is an Nx1 switch (40A-40K of fig. 2; see also paragraph 0025: outputs are coupled at selectors/couplers 40A-40K; note that "N" channels are input and only one is selected which is constituted as an Nx1 switch).

Claims 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Downie in view of French and in further view of Huber (US Pub. No. 2002/0063929 A1).

Regarding claim 7, the combined invention of Downie and French teaches a device between said at least one coupler switch and said test switch, said device modifying an intensity of an optical signal transmitted to said plurality of test equipment (38A of fig. 2 of Downie). The combined invention does not disclose that the device can selectively modify the intensity. However, selective amplification is well known and widely used in the art. For example, Huber teaches an optical communication system (fig. 5) comprising a selective amplifier with energy supplied and controlled by a pump (see e.g., paragraph 0059). It would have been obvious to a skilled artisan at the time of invention to incorporate the selectivity function as taught by Huber

in the amplifier of Downie in order to allow for a more flexible and dynamic amplification scheme.

Regarding claim 8, the combined invention of Downie, French, and Huber teaches that the processor controls said device to selectively modify said intensity (the pump of Huber is considered to be part of the processor).

Regarding claim 9, the combined invention of Downie and French teaches an optical amplifier between said at least one coupler switch and said at least one test device (38A of fig. 2 of Downie). It is not expressly disclosed that the optical amplifier is controlled by the processor. However, it is common for an amplifier to be controlled by a processor. For example, Huber teaches an optical communication system (fig. 5) comprising an amplifier with energy supplied and controlled by a pump/processor (see e.g., paragraph 0059). It would have been obvious to a skilled artisan at the time of invention to include a processor-controlled amplifier as taught by Huber in the amplifier of Downie in order to allow for a more flexible amplification scheme.

Regarding claim 10, the combined invention of Downie and French teaches the limitations of claim 5 but does not expressly disclose the limitation of an attenuator between said at least one coupler switch and said at least one test device, said attenuator controlled by said processor. However, it is well known that an amplifier can both amplify and attenuate signals. For example, Huber teaches an amplifier controlled by an optical pump source which serves to both amplify and attenuate an optical signal (paragraph 0032). It would have been obvious to a skilled artisan at the time of invention to include an attenuation function as taught by Huber in the amplifier of Downie in order to decrease intensity so as to prevent saturation at receiving terminals. Huber also teaches that the attenuator is controlled by a pump/processor (paragraph

0059). It would have been obvious to a skilled artisan at the time of invention to include a processor-controlled amplifier as taught by Huber in the amplifier of Downie in order to allow for a more flexible amplification/attenuation scheme.

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Lee whose telephone number is (571) 272-2220. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on (571) 272-3078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DL

KENNETH VANDERPUYE
SUPERVISORY PATENT EXAMINER